

## Activity 4

### Think About It

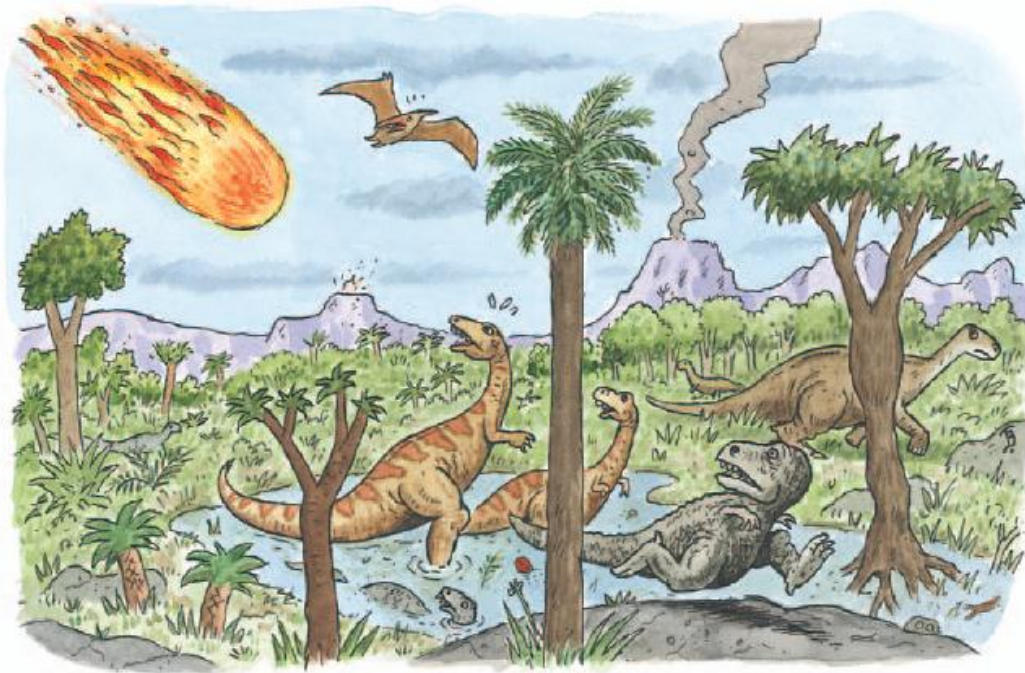
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- How large (in diameter) do you think the meteor was that formed Meteor Crater?
- How would the impact of the meteor have affected living things near the crater?



# WHAT DO YOU THINK?

## Activity 4 Digging Deeper

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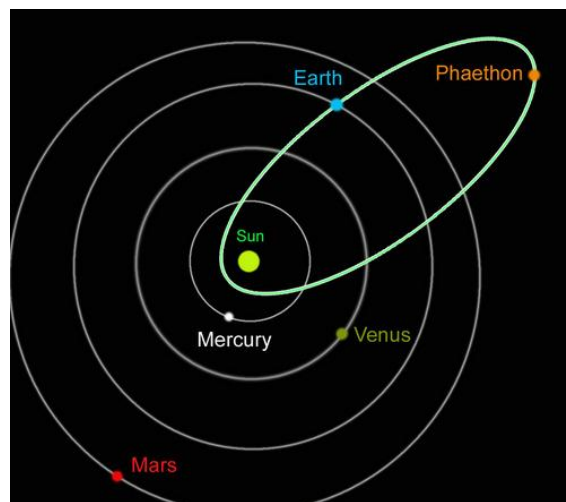
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Asteroids

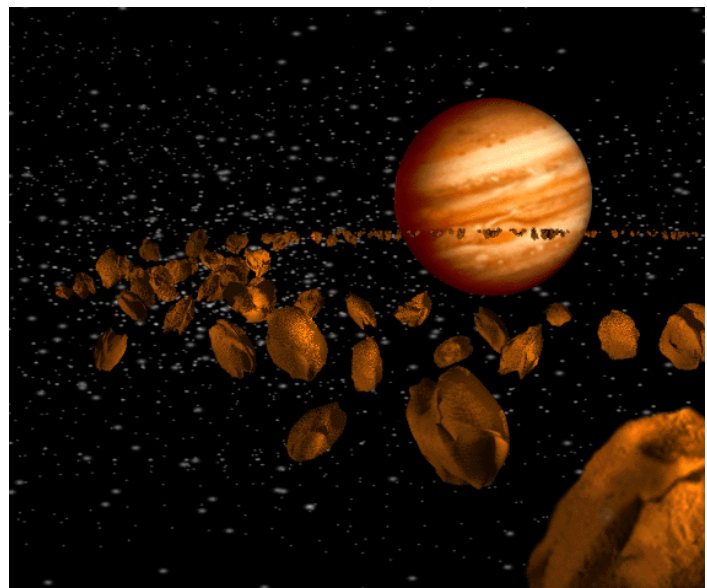
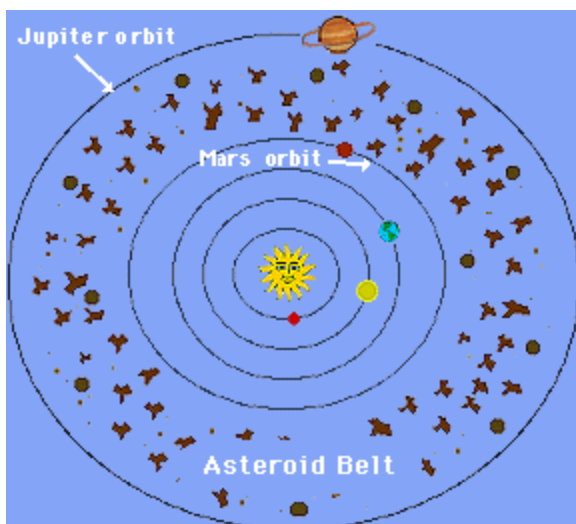
are rocky bodies smaller than planets that are leftovers from the formation of the solar system

They orbit the sun in very elliptical orbits



Asteroid belt

most asteroids are in this region between Jupiter and Mars



## Extinction of dinosaurs

most scientists believe the dinosaurs became extinct 65 million years ago when an asteroid or comet hit the Earth

The impact would have sent up enough dust to cloud the entire Earth's atmosphere for many months

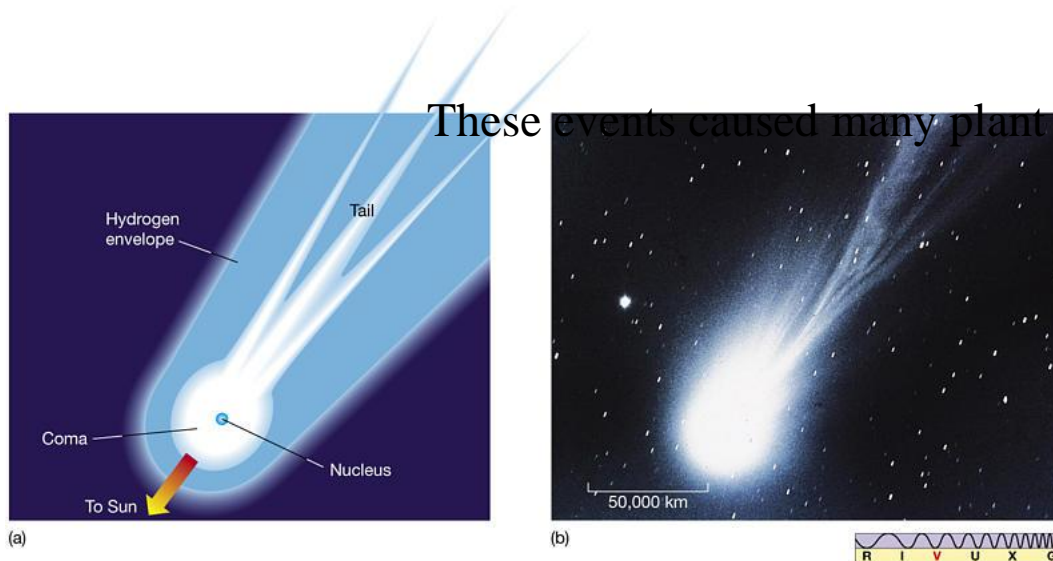
This would have blocked out sunlight and killed off many plants, and eventually, the animals that fed on those plants

About 75% of animals and plants became extinct



## Extinction

our planet has undergone at least a dozen mass-extinction events during its history



## Comets

masses of frozen gases and rocky dust particles

They are leftovers from the formation of the solar system

## Coma

a bright cloud formed when the sun's heat vaporizes a comet's frozen gases

<http://www.brainpop.com/science/space/comets/>

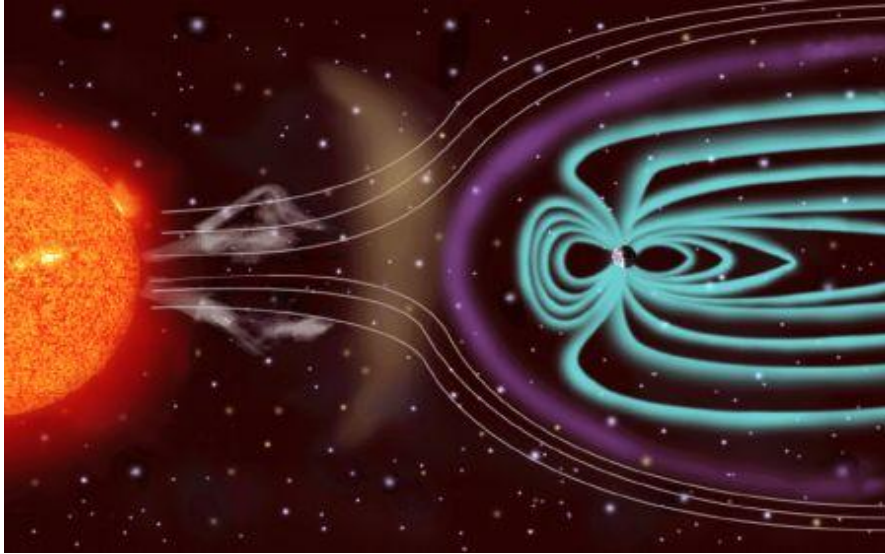
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<http://www.youtube.com/watch?v=D7ptU3ug0WQ>

## Solar wind

the stream of fast-moving charged particles coming from the sun





<http://www.youtube.com/watch?v=a27xQy1b1Cs>

### **Meteoroid**

a small rock in space

Meteoroids are made mostly of the pieces of rock and dust remaining after the sun vaporizes a comet

Most pieces are smaller than a grain of sand

### **Meteor**

a meteoroid that enters Earth's atmosphere

Meteors are commonly known as shooting stars

[http://www.youtube.com/watch?v=e\\_2aX-784sw](http://www.youtube.com/watch?v=e_2aX-784sw)

[http://www.youtube.com/watch?v=cajfFtu\\_QPA&feature=related](http://www.youtube.com/watch?v=cajfFtu_QPA&feature=related)



## Meteorite

a meteor that strikes Earth's surface

This occurs when a meteor is too large to completely burn up in Earth's atmosphere



## Composition

80% of meteorites are rocky and difficult to tell apart from Earth rocks

~ 15% of meteorites are made of the metals iron and nickel and are very dense

The remainder are a mixture of iron, nickel and stony material

## Activity 4

### Check Your Understanding

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1. Where are most asteroids found in the solar system? What is this place called?
2. How might a major asteroid impact have caused a mass extinction?
3. How do meteoroids, meteors and meteorites differ from each other?
4. What are the compositions of the different kinds of meteorites?